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USPT	l3 and 707/200.ccls.	3	<u>L4</u>
USPT	l1 and format	44	<u>L3</u>
USPT	l1 and second format	0	<u>L2</u>
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3	BRS	L3	161	(extract\$4 NEAR ATTRIBUTE)	USPAT	1999/12/28 08:23
4	BRS	L4	1	3 AND 1	USPAT	1999/12/28 08:24
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7	BRS	L7	21	5418946.uref.	USPAT	1999/12/28 08:32
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9	BRS	L9	1	8 AND extract\$5	USPAT	1999/12/28 08:33

1/9/67 (Item 2 from file: 674)
DIALOG(R)File 674:Computer News Fulltext
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054546

Review: Revised GroupWise grows up

Review

Byline: Travis J. Berkley

Journal: Network World Page Number: 113

Publication Date: September 16, 1996

Word Count: 3220 Line Count: 281

Section Heading: Feature Articles

Text:

With GroupWise 5, Novell, Inc. has enhanced almost every aspect of the groupware platform that began life as WordPerfect Office. The new product's messaging and conferencing capabilities are in the same league as those of Microsoft Corp.'s Exchange and Lotus Development Corp.'s Notes, but you also get integrated document management and workflow, along with easy administration that relies on the powerful Novell Directory Services (NDS).

In other words, GroupWise 5 is a well-rounded groupware package that makes it easy to access and share information.

Our evaluation of a near-final beta version of the software revealed a product with more data access options than ever. Its open architecture supports many network operating systems and provides hooks for third-party applications to easily tie in. The system administration functions, now presented in a Windows-based environment, are more intuitive, more powerful and easier to navigate.

The server agents have been enhanced significantly since the release of GroupWise 4.1. While end users will not directly appreciate the changes, you'll probably have far fewer headaches when it comes to upkeep and load balancing.

Another big change is the servers of GroupWise 4 are replaced with agents in GroupWise 5:

Message Server is replaced by a Message Transport Agent (MTA) that transports data between message stores, performing any necessary conversions.

Administration Server is now an Administration Agent (ADA) that is responsible for functions such as adding users, meeting replication requests and domain database maintenance.

Post Office Server is now a Post Office Agent (POA) and handles post office message stores and libraries.

We tested all three types of agents for both NetWare and Windows NT.

One major enhancement is the ability to schedule maintenance at any time of day or night. You can schedule an "Analyze and Fix" job nightly, while each weekend you can run a more robust check that includes scanning contents and indexes. You can also schedule maintenance on the libraries that store document management information. To facilitate clean backups, you can tell the ADA to remain idle for a period of time. The interface to this feature was functional in our beta copy, but the developers had not yet enabled the buttons that caused the execution of scheduled events.

Another interesting feature is the ability to have numerous POAs servicing the same post office. Each POA interacts with client/server requests. For heavily used post offices, this can distribute the workload over many different machines and processes to help with load balancing. We used the NetWare Loadable Module (NLM) and NT agent simultaneously with two

machines and experienced no problems.

Administration of all facets of GroupWise 5 is handled within the

NetWare Administrator program, NWAdmin, through the use of snap-in modules. Four new tabs in the Details windows offer options for each GroupWise user. Also, a View option can be activated to show domain and post office information in the top pane and user, resource and library information in the bottom pane (see Figure 1).

For most of the system maintenance in GroupWise 4, administration was a tedious process, performed largely one user at a time. Maintaining GroupWise now is as simple as pointing to any resource in NDS and clicking on System Maintenance. Repairs, if necessary, are handled by either the ADA or the POA, whichever is appropriate. As with the previous version, maintenance may be performed while users are active in the system.

Since GroupWise administration is built around NDS, it can be centralized or distributed. With the previous version of GroupWise, administration could only occur on a domain level. Additionally, different people can be given different administrative chores.

Have data your way

Connectivity and the ability to get to your data in a variety of ways is a strong point of GroupWise 5. For backward compatibility, Novell designed the GroupWise 5 MTA to be compatible with the GroupWise 4 remote clients. The MTA performs message conversion from Version 5 to Version 4, and can upgrade post offices one at a time in a domain.

GroupWise 4 clients used shared post office box files, which put the burden of data manipulation on the client. If your server lacks processing power, this could be an acceptable solution, and, in fact, this option is still available in GroupWise 5 and functions in the same manner. However, it does require that the client have some form of direct access to the post office, making it possible for the user to accidentally delete or corrupt data.

GroupWise 5 offers an additional client/server option in which the message stores are always on a file server. Users communicate with the agent via TCP/IP, which means no direct drive mapping to the server is required. Users do not have to be authenticated to the server.

With this option, the client makes requests directly to the POA. Since the administrator is free to implement many POAs for a single post office, the agents can be moved to points on the network that balance the load, eliminate bottlenecks and facilitate faster response. It also provides tighter security, since the client does not need direct access to the post office.

Remote users used to require a product that kept separate databases and address books and synchronized them when connections were made to the PO, much the same way Lotus Notes performs replication. The new client comes with remote capabilities bundled in. If you select "Hit the road" from the Action menu, it downloads copies of whatever you select locally to, say, your laptop. When you make a connection, select the same option and GroupWise sends copies of the messages, addresses and whatever else you created, updates the message stores on the server and you're back in client/server or file-sharing mode again.

For users on the go, Novell's Web Access is a handy way to access personal information without the need for a specific client. Using any browser, you can log on and, with very few limitations, access your complete post office box. Web Access was released recently for GroupWise 4, and a version that works with GroupWise 5 will ship with the initial release. It will have the same functionality as the current Web Access version, meaning only those functions available in GroupWise 4 will be

included. A version planned for late this year or early next will support message attachments, document management and access to shared folders.

Any Messaging Application Programming Interface (MAPI) 1.0-compliant mail client can also access the GroupWise 5 message stores, either through file sharing or client/server access. For example, using the standard Microsoft Exchange client that ships with Windows 95, we were able to access our GroupWise 5 mailbox. Exchange still displays information in its native format, so items such as appointments appear as mail messages, but they are accessible.

Within two to four months after the initial release, GroupWise 5 is slated to have a back end available to provide Post Office Protocol 3 (POP3) and Internet Message Access Protocol 4 services. This was not available for evaluation.

Like its predecessor, GroupWise 5 supports a variety of gateways to link to multiple platforms and systems. And, by using the GroupWise 5-to-GroupWise 4 message conversion built into the MTA, you can upgrade to new versions of the gateways as they are released. New versions of the gateways were not available for this evaluation.

The only stated requirement for running GroupWise 5 is NDS running on one NetWare 4.1 server anywhere on your network. As Novell develops versions of NDS for other platforms, a NetWare server will no longer be a necessity.

The NetWare agents installed easily and required no special attention to run. As the Setup Wizard gathers information about your domains and post offices, it automatically creates the configuration files that each agent needs and saves them in the server's System directory. In addition, it creates a script file to make starting the agents a one-command process. Domains and post offices can be on any version of NetWare 4.X and 3.X.

Setting up the NT agents was just as straightforward. The agents can be installed to either a file server directory or to a local disk. For our testing, the agents were installed locally on Windows NT Workstation 4.0. The screens look similar to the NLM screens, except that menus are available via mouse clicks instead of via function keys.

Both the NLM and NT agents were stable, even in this beta release. While we couldn't re-create the volume of our 4,000+-user production system, we encountered no server crashes and could perform maintenance without incident.

Agents for other platforms are in development. Three to five months after initial release, Novell says agents will be available for SCO Unix, HP/UX, AIX, Sun Solaris and OS/2.

A new face

One of the most prominent additions to the GroupWise package is the arrival of a 32-bit client. It is written for Windows 95, but Novell says it will be supported as a Windows NT 4.0 client by release date.

What grabs your attention first is the multipaned appearance of the client, similar to that of Lotus Notes and Microsoft Exchange (see Figure 2, page 113). It juxtaposes folders and hierarchical structures with content and items. A third pane containing the Quick Viewer, a means of browsing your information, can be opened along the bottom.

Novell has expanded on the universal in-box concept by adding a few new features and enhancing current ones.

The Mailbox, called the In Box in the previous release, is still the common entry point through which all items reach the user. Also, just as with the previous version, all items sent by the user are stored in the Sent Items folder, formerly known as the Out Box. The functionality of the Calendar and Task List folders remain consistent enough for veteran

users to pick up where they left off with the previous version.

Also, the Trash is now simply another folder. As with previous versions, the Mailbox, Trash and now the Calendar icons each change to reflect new items that require the user's attention.

The Cabinet, which is the default location of the unlimited number of folders users can tailor to their needs, gives you a tremendous amount of flexibility in organizing your data. You can use rules to automatically move inbound items from the Mailbox to alternate locations. While you cannot make subfolders for standard items such as Mailbox and Calendar, you can add folders to the top level of your post office box and nest folders however you wish. A Work In Progress folder is available to save draft messages.

A powerful new feature in GroupWise 5 is shared folders, a feature also found in Microsoft Exchange. Without help from the administrator, users can share folders and their contents with other users (see Figure 3). If the user exists on another post office, replication of the items occurs behind the scenes. The right to read a folder is implied, but you may also grant the right to add to, modify or delete what is already in the folder. Once you've done this, a dialog box asks for a message to be sent as an invitation to the user you've designated. When the recipient reads and accepts the invitation, a folder is created in his Cabinet and sharing is immediately activated.

Shared folders are a prerequisite for discussions, which are basically threaded online conversations. Message threads can be expanded and collapsed to make it easier to find a particular thread of interest. Formatting the text seems to be rather crude - no hard returns, no tabs and no addition of white space - but the functionality of a bulletin board feature is a welcome addition. As with all GroupWise message types, you can attach files to a discussion item.

E-mail in any folder can also be viewed as threads. By default, GroupWise shows messages you have sent, denoted by red arrows, interspersed with the messages you have received. If you do not wish to see your outbound messages, you can simply click off that filter in the toolbar.

The address book in GroupWise 5 has taken on a completely different look. Integrated within previous versions, it is now a separate executable program that can be browsed or called while addressing messages. A nice feature of the Address Book is the Frequent Contacts book. As each message is sent or received, its address is picked out and placed in the Frequent Contacts book. You can use this book, sorted by number of contacts, just as any other.

To find a name, just start typing in one of the destination fields; the client looks for matches based upon which field you're typing in. It first searches Frequent Contacts, then the user's personal address book, and finally the system address book, containing all GroupWise users. Once an address is selected, it is displayed by showing the person's full name rather than some cryptic form of address. As before, you can logically combine users into groups, but you now can save these groups in any of your personal address books.

The ability to find a piece of information in an ever-expanding mailbox is always a challenge. With GroupWise 5, you can use the Find tool to locate a text string in any message type. The Find options allow the user to selectively control which folders to search, what message types to look for, and even specific information about the author, delivery date or version. This is quite a handy feature for those who don't clean their mailbox as often as they should.

Workflow is a new addition to the GroupWise suite, though it was not

available in the beta version we tested. Workflow is designed to automate processes - messages can be forwarded to the appropriate personnel, actions can be triggered based on the type of message or its content, and the progress of the entire procedure can be tracked and monitored.

Novell has also folded its SoftSolutions document management product into this version of GroupWise. Any program that can take advantage of Open Document Management APIs can tie into the Document Management features of GroupWise 5. Other documents can be manually merged into your post office box. Once you've done this, you can check documents out to others, keep track of revisions and the history of a document, and control how and whether people can access the document concurrently. To set up document management, an administrator must define at least one library. A library is an area where documents are stored when not checked out to a user. Documents are encoded when checked in to the library - an added security bonus.

When someone makes a request to check out a document, it is copied from the library to a directory the user specifies. If you attempt to check out the same document, you'll be informed as to who has already checked it out.

Wise but quirky

With all the improvements on the server side, Novell might be excused for devoting less effort to enhancing its clients. But happily, that doesn't appear to be the case.

The Windows 95 32-bit client is a feature-rich tool, but we question some of the design choices. For example, those who create regularly scheduled appointments using the Auto-Date feature might be confused by the behavior of the Set Alarm action. If you remember to set the alarm before going into Auto-Date, the result is what you would expect: each event will have an alarm set on it. But if you try to select Set Alarm after you have used the Auto-Date, the option is grayed out, and no event gets an alarm associated with it.

Another potential "gotcha" is that the Quick Viewer marks items as opened. So if you thumb down through your In Box with the Quick Viewer, the messages you pass are marked as read whether you actually opened them or not. If you do not know about this feature, you might overlook a mail message that is actually new.

The 16-bit Windows 3.1 client has changed little since Version 4.1a. It cannot take advantage of most of the features added to the 32-bit client except for client/server connectivity. This was not an oversight on Novell's part. In fact, after considering Novell's recommended upgrade path, it makes the job of moving to GroupWise 5 a much more manageable task.

When the post office is upgraded from Version 4 to Version 5, the 16-bit client, which also runs under Windows 95, is delivered automatically to the desktop. This lets the users begin using GroupWise 5 immediately in an environment they are familiar with. Users can then migrate to a full-featured 32-bit client whenever it is convenient.

Novell plans to provide a version of the 32-bit client that runs under Windows 3.1 with Win32's extensions about two to four months after the initial release. This will give users the power of a 32-bit client without forcing them into a new operating system.

There's also a full-featured Macintosh client for both Motorola and PowerMac architectures available with the initial release of GroupWise 5. The initial beta version was unavailable for review, but the client is reported to be similar to the Windows 95 client. Migrating in the Macintosh environment will be more of a plunge because there will not be an older-looking client compatible with GroupWise 5, unless users are running

the remote client.

Two to four months after initial release, and not currently even in beta, Novell expects to release clients for AIX, HP/UX and Solaris.

The one client not available in GroupWise 5 that was present in Version 4.1 is a DOS client.

Into the spotlight

The decision to upgrade from previous versions to GroupWise 5 is all but a foregone conclusion. The new 32-bit clients pack the power of document management, sharing and workflows. Administration is now easier, more flexible and more configurable. Client/server connections and MAPI 1.0 compliance provide more options to get to your information, and shared folders make it easy to share that information. The wide variety of platforms supported ensures that everyone can join in the fun.

Even if you are not a current user of GroupWise, you should consider it as your primary groupware platform. It offers an enticing superset of the functions of Microsoft Exchange and overlaps largely with the capabilities of Lotus Notes, though with simpler administration.

HOW WE DID IT

We installed GroupWise 5 on a Tangent P-90 server running NetWare 4.10 with 128M bytes of RAM and 2G bytes of disk space. Our clients ran:

NT Workstation 4.0 on a Microtech P-90 with 32M bytes of RAM

DOS 6.22 and Windows 3.11 on two clients, a Microtech P-90 with 32M bytes of RAM and a Zenith Z-Station 486/DX33 with 12M bytes of RAM

Windows 95 workstations on two clients, a Microtech P-90 with 16M bytes of RAM and a Microtech 486/DX2 66 with 16M bytes of RAM

We installed the message stores and NetWare Loadable Module agents on the NetWare 4.1 server. We installed the NT agents on the NT Workstation client.

To put the product through its paces, we performed basic day-to-day functions: creating E-mail, scheduling calendar events, noting tasks and making notes. We also created documents to share and check out. On the administration side, we added and deleted users and performed database and library maintenance.

1/9/28 (Item 28 from file: 275)
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01710782 SUPPLIER NUMBER: 16235955 (THIS IS THE FULL TEXT)

Oracle enters document management market: object layer and full-text retrieval for relational database systems. (Oracle Documents groupware)

(Product Announcement)

Seybold Report on Publishing Systems, v24, n4, p14(2)

Oct 31, 1994

DOCUMENT TYPE: Product Announcement ISSN: 0736-7260 LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 1690 LINE COUNT: 00141

TEXT:

Oracle, the database supplier whose relational database lies beneath many contemporary document management systems, has formally entered the document management market itself with a groupware product called Oracle Documents. The product's object-oriented document services, layered on top of Oracle 7.1, could dramatically alter the high-end structured document management market.

In conjunction with the announcement, Oracle also issued several statements of direction regarding its document-related products. Background. For several years, Oracle has been gradually expanding its original domain -- a database for structured data -- to create repositories for other types of information -- graphics, text and video. It added support for binary large objects (blobs) to handle graphics. It developed linguistic technology for analyzing and retrieving text; and it developed software designed for large- volume transactions of digitized video (the media servers it is building for U.S. West and other telephone companies). A year ago, Oracle announced Oracle Office, an enterprise-wide approach to electronic messaging (e-mail, scheduling, etc.) that was based on Oracle 7 servers and replaced the five-year-old Oracle Mail product. At that time Oracle made clear that Office was only a step toward a full groupware product that would compete with Lotus Notes.

Oracle Documents is that groupware product. It takes the messaging facilities of Oracle Office and adds to them apis and services for managing documents.

Components. Oracle Document consists of several components, some new, some enhancements to existing products:

The document api. Oracle has added an object-oriented set of apis designed specifically for handling text, graphics, compound documents and objects other than structured numerical data. It is this new api that is the most fundamental change.

Services. Oracle is providing a set of its own services written to the api. They include messaging, directories and library services. More are under development.

TextServer. Announced earlier this year, TextServer version 3 is Oracle's full-text indexing engine, which runs as a process on a server against a text database stored in Oracle.

ConText. Oracle has developed natural-language linguistic analysis technology, called ConText, that complements TextServer's full-text indexing and retrieval. ConText reads documents and extracts their themes, which can then be used for thematic searches.

Oracle Book. Oracle has added a tool for creating and viewing electronic books..

Document services. In Oracle Documents, messages are stored as database objects. Multiple files of any type can be attached to messages. A soon-to-be-released feature, mobile messaging, will let you read and compose messages offline, without being connected to the server. Messages can be downloaded and uploaded in batches via modem.

Directory services are utilized by messaging and scheduling, providing directories to clients in a distributed network environment. Current library services take care of storing objects and managing their access. Objects can be saved in their native file format along with meta-data such as version number, classification, documents in which it is used, etc. Oracle's library services take care of check-in/check-out and provide additional search and retrieval tools.

Next: Library and Author modules. According to Oracle, the next services to be delivered will be tools for document management and "intelligent" forms. With the forthcoming Library module, documents can be organized and managed as objects within folders. Each folder has its own set of attributes, and these attributes can be the basis for creating "virtual folders," selective directories created by running a query against a folder's attributes.

The Library module provides the basis for modeling an sgml repository in an Oracle database. Library folders can represent the sgml hierarchy, with sgml attributes stored as Oracle attributes at each level. Oracle's Library module supports an unlimited number of levels for folders, and the definition of folder classes can be made to match a publication hierarchy. A document, or object, may appear by reference in more than one folder. In publishing, this feature is handy for including a single element (whether it be text or graphics) in multiple publications, using the folder as a view of the publication.

The Library module will also support replication of documents across servers, networks and locations.

The Author module will be a developer's tool for creating wysiwyg document forms that automatically stretch to fit their contents. The contents can include structured information (relational tables), formatted text, tables or multimedia objects.

The Author and Library modules will be available on Windows and Motif in early 1995.

The planned workflow module will accommodate both structured and ad-hoc workflows. Oracle plans to support automatic task assignment, routing, deadlines and escalation procedures. The workflow module will come out later in 1995.

TextServer. TextServer is Oracle's text retrieval component of the Oracle Documents suite. It is a server application -- client applications are written in Oracle Forms or Visual Basic. Typically, client applications provide a way to mix field searches (sql queries run against the Oracle database) with text searches run against TextServer. ConText's thematic searching provides yet another way for users to structure their queries (see illustration).

With TextServer, Oracle now competes directly with Information Dimensions in offering a relational database with built-in full-text retrieval. In the publishing market, this mixture is particularly advantageous in editorial systems for long documents such as pharmaceutical filings and legal and reference publications. It is also possible to create this mixture by integrating full-text engines, such as Fulcrum's SearchServer, with relational databases. (See below for more news about Fulcrum.) TextServer has its own viewer, called TrueView, which displays a variety of word processing formats. TextServer can also be set up to launch

source application programs instead of the viewer. TrueView is a simple viewer for displaying a document with search results highlighted. It does not provide navigational facilities, as in Oracle Book.

TextServer ranks retrieved documents according to its perception of their relevance. The first method is the Salton algorithms; the second is to make use of relevance statistics compiled by ConText. Application developers can also use those statistics with their own algorithm.

Oracle Book. Oracle's electronic document viewer takes word processing files and converts them to electronic books for online or cd-rom distribution. In functionality, its closest competitor may be Bellcore's SuperBook, because their document displays are similar and both products offer a client-server approach optimized for users accessing documents stored online on a server. Both SuperBook and Oracle Book books can be stored as flat files, but Oracle Book administrators have the option of storing books directly in the database.

Oracle Book is designed to handle structured documents. It translates the implied structure of word processing formatting to tags and similar formatting (in style sheets) in Oracle Book. For display, text is composed on the fly to the width of the window on the screen.

Oracle Book uses its own tagging language, but Oracle has written an sgml dtd for Oracle Book. Like Bellcore, Oracle is working on an sgml filter for converting documents encoded in other dtlds into Oracle Book. In the future, Oracle plans to integrate ConText with Oracle Book. Integration with Oracle Forms and Oracle Graphics is already offered via Book's command-line interpreter.

Sign up the integrators. Oracle's new thrust is a natural progression for any database company. The entire computing market is migrating toward communication as the fundamental use of computers, and documents are a critical component of human communication. As this shift takes place, publishers are increasingly able to apply general-purpose computing tools to publishing-specific tasks. In this case, Oracle's document management tools -- intended to serve a broad class of officeusers -- look like an excellent building block for a variety of publishing systems. One obvious application will be editorial systems for structured documents. Documentum, Interleaf, Datalogics and others have built systems for managing documents as objects that relied on Oracle's relational database as the underlying repository. We still think there will be a role for publishing vendors and integrators to add their own value to Oracle's product. But the apis in Oracle Documents will make developing an object- oriented editorial system much easier.

The first publishing vendor to take advantage of Oracle Document apis is R.R. Donnelley, which is building an sgml-capable repository called Powerbase. Powerbase, developed by Donnelley's Database Technology Services Group, will be adapted to several applications -- industrial catalogs and service-bureau libraries at first, with others to follow. Before embarking on its Powerbase effort, Donnelley surveyed the document management systems and databases on the market and found Oracle's Document apis to be a good fit for Donnelley's requirements. The object layer provided not only a strong foundation for an sgml-capable solution but also complementary services (text retrieval, messaging) and a blending of object and relational database technology without relying on an intermediate vendor, such as Documentum or Interleaf.

Object-oriented databases hold promise, but are still a hard sell at many companies. A document layer for Oracle 7 is but another application of a proven, and very popular, relational database. As such, Oracle Documents could prove very appealing to publishing integrators (be they end users or

vendors) as a foundation for building a contemporary document management system.

Oracle itself has aspirations to become a publishing system supplier, but we have our doubts, especially with regard to professional editorial systems. We doubt it will be long before some sort of objects-for-sql-databases technology appears from rival Sybase/Microsoft, and other object-oriented database technologies continue to advance. If it can keep its basic tools competitive, Oracle has a chance to serve the publishing industry well, without trying to solve all of its industry-specific concerns.

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SPECIAL FEATURES: illustration; chart

COMPANY NAMES: Oracle Corp.--Product introduction

DESCRIPTORS: Product Introduction; Workgroup Software; Document Processing System

SIC CODES: 7372 Prepackaged software

TICKER SYMBOLS: ORCL

TRADE NAMES: Oracle Documents (Workgroup software)--Product introduction

OPERATING PLATFORM: Microsoft Windows; OSF/Motif

FILE SEGMENT: CD File 275